CAS 7440-48-4

Substance name Cobalt & Cobalt compounds

Toxicity

Some cobalt compounds are classified as carcinogens by authoritative sources.[1-3] Inhalation of cobalt compounds can induce lung and other cancers in rats and mice.[1,2] Occupational studies are not conclusive but do indicate that cobalt may be an agent of lung cancer in humans.[1,2,5] Oral exposures to soluble cobalt compounds are associated with testicular atrophy and reduced fertility in male rodents.[4] There is also a limited literature indicating that cobalt had developmental toxicity in rodents.[4]

Exposure

Cobalt is used in alloys, pigments, and fertilizers; as a drying agent in paints, varnishes and inks; a component in porcelain enamel; and as a catayst in synthesizing polyester and other materials.[5] In testing by the Danish EPA, cobalt was found in samples of fabric, in glass and porcelain colors, and at trace levels in school supplies.[6]

References

1. WHO, International Agency for Research on Cancer (IARC) Monograph on the Evaluation of Carcinogenic Risks to Humans, Vol. 86: Cobalt in Hard Metals and Cobalt Sulfate, Gallium Arsenide, Indium Phosphide and Vanadium Pentoxide (2006). http://monographs.iarc.fr/ENG/Monographs/PDFs/index.php.
2. U.S. DHHS, PHS, National Toxicology Program. Report on Carcinogens, Eleventh Edition. 2005. http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s048zcob.pdf.
3. California Office of Environmental Health Hazard Assessment. List of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Feb 5, 2010. http://www.oehha.org/prop65/prop65_list/files/P65single020510.pdf.
4. REPROTEXT Thomson Reuters (Healthcare) Inc. File for Cobalt. Database Version 5.1 Greenwood Village, CO. (accessed 2009).
5. Centers for Disease Control and Prevention (CDC), Fourth National Report on Human Exposure to Environmental Chemicals, December 2009. http://www.cdc.gov/exposurereport/data_tables/.
6. Danish Ministry of the Environment, Environmental Protection Agency. Surveys on Chemicals in consumer products. Reports 23, 59, and 84. http://www.mst.dk/English/Chemicals/Consumer_Products/Surveys-on-chemicals-in-consumer-products.htm.